Attendance: Ed Rohrbach, Al Marks, Mick Fitzharris and Valerie Hutchinson

Meeting convened at 6:54 P.M.

**Agenda**

1. Review transfer of authority over memorial Garden.
2. Review Road Repair
3. Review drainage at the Field Theater
4. Review consultant's report on Fells Oak on the Green
5. Damaged storm drain at Green Lane and Woodland
6. Discuss tree removal on Green and elsewhere
7. Discuss Sign replacement
8. New Business

**Minutes**

June 2014 Civic Monthly Minutes approved

**Memorial Garden**

As a result of the Memorial Garden being moved back to Community Planning Committee, the negotiations with NCC over the zoning requirements for the stage that was built partially on Arden Club leasehold and partially on Memorial Garden leasehold will be continued under Community Planning. It is no longer Civic Committee responsibility.

**Roads**

Woodland Lane is schedule Wednesday July 2 for repairs by Edward Smith Paving Company. Ed Smith Paving is scheduled to repave the intersection of Inn Ln to Miller on Woodland Ln. Estimated cost is $11,400, which will include intersection. The amount spent to date is $8,600.00.

Inn Ln $2,400 to pave the portion that is dipped down and Alligatored (broken into scaly chunks).

Grates for Meadow Ln and Pond Ln need a price and a proposal. In addition, need to obtain from Edward Smith Paving Company a sample of the product, or a picture, or a detailed plan of what they are going to do.

Drainage at Field Theater has not yet been fixed. When it rained the other day, it drained fairly quickly. George and Larry "Roto Rootered" and dug a hole. However, the problem is no one knows where the pipe is located. It is believed it is draining into a larger pipe, which comes from the street drain, and it travels across several private leaseholds. This is an ongoing problem. There is a storm drain on Woodland Ln that is opposite to the theater and comes out beyond Mandy's leasehold. Ed thinks that possibly the small drain taps into this larger one. Next step is pour dye into drain to see where it is traveling and where it comes out.

Damaged storm drain at Green Lane and Woodland Ln: Ed Smith Paving Company will investigate double drain. One is tilted down and one is flushed. Al believes this work was already paid for and will have them fix it.

**Trees**
Tree Consultants' Report
(Tree Tech Consulting Russell E. Carlson, Bear DE) Copy follows minutes.
Russell Carlson's report is recommending that the area around the Fels Oak be limed with a certain percentage ph (acid somewhat) because the ph was 5.2 which is too low. Ideal would be ph 7 = neutral.
His report lists other recommendations which Civic will need to review sometime.

Tree removal on Green and elsewhere
There are two dying trees on the green. One is a Black Cherry (located among pines opposite Woodland and Green Ln) and the other is a Red Maple (located in the middle of Inn lane. It is the fourth tree next to driveway). Ed will obtain a proposal to remove trees.

Dancing Cherry and another tree located near the memorial needs to be pruned.

Lynda Kolski has dead branches from a tree located on Milky Way path which is located adjacent to her property; the branches, some of which are dead, reach over to her property. She wants to know if Civic can trim them. No, it is the leaseholder's responsibility.

**Signs**
Ed and Valerie will take an inventory of signs stored in spring house.

**New Business**
Field Theater Pillar Caps
Field Theater pillars caps: Ken Morrison has been notified that he has obtained the job from Arden to fixed caps only. He agreed to charge for material only. At the present time, he is very busy with customers and he will do the job as soon as he has a chance.

Mosquitoes
A few residents were upset about spraying for mosquitoes done by Shakespeare Guild. Residents were notified. Lowest toxicity rating by the EPA and dries in thirty minutes.

Meeting adjourned at 7:39 P.M.
Respectfully submitted
Elizabeth Resko
Arden Town Secretary

Tree Tech Consulting

June 10, 2014

Village of Arden
Mr. Ed Rohrbach
2328 Cherry Lane
Wilmington, DE 19810

Russell E Carlson
RCA, BCMA

114 Grand Canyon Court
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ASCA REGISTERED CONSULTING ARBORIST
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American Society of Consulting Arborists

BOARD CERTIFIED MASTER ARBORIST ISA
BCMA #TD-0008B
International Society of Arboriculture

Subject: Fels Oak on the Green; Assessment of health and safety

Dear Mr. Rohrbach:

On May 6, 2014, I met with you to inspect and discuss the Fels Oak near the playground on The Green. I had previously met with Mr. Tom Wheeler to discuss the tree, but soil conditions in February prevented a full examination. We deferred the inspection until this spring, after the leaves began to expand.

This tree is a swamp white oak (*Quercus bicolor*). It has a trunk diameter of 50.6 inches, measured at 4.5 feet above the ground. I measured the height to be 60 feet with a laser hypsometer. The branch spread is about 120 feet on average. This tree is situated on The Green near the intersection of Millers Road and Woodland Lane. Documentation of the area indicates the tree was planted approximately 100 years ago.

The concern that prompted the inspection was recent work done on the tree and questions about the impact of the placement of the mulched surface in the area of the playground equipment.

It is my understanding that the mulched area was created several years ago. It was constructed by excavating several inches deep, then overlaid with a geo textile fabric. Crushed stone was then placed 2 to 4 inches deep, and this was covered with chipped wood mulch. The borders of the area were originally lined with 6x6 inch timbers to delineate and contain the mulch, but these timbers have since been removed. Additional mulch has been added periodically to maintain the safety surface of the playground.

The initial construction of the playground surface area caused some impact to the root system of the tree. In particular the excavation of some surface soil probably damaged or removed a portion of the root system in those areas. This does not appear to have caused significant

Fels Oak on the Green; Assessment of health and safety

Village of Arden
Attn: Mr. Ed Rohrbach
2328 Cherry Lane, Wilmington, DE
June 10, 2014

or immediate harm o the tree, however. Several years after this project was finished the tree is not exhibiting any signs of decline in the crown. Excavations of two soil pits within the playground bed revealed one or two dead roots, each less than three quarters of an inch in diameter. Live roots, up to one quarter inch, were also found, indicating the root system is recovering with new growth below the installed bed.

Reclamation of a portion of the installed bed can be done, provided certain specifications are followed.

1. The safety zone around remaining playground equipment must be maintained. The safety zone must be at least 6 feet beyond the outer edges of any equipment, except that swings must have a distance of twice the pivot height, in the direction of swing.[1]
2. Removal of any current materials must be done by hand. No mechanical equipment such as loaders, backhoes, or tracked equipment should be used. The use of such equipment risks further damage to roots in the soil.
3. Existing mulch, stone and geo textile fabric should be removed, but the surface of the natural soil beneath should not be disturbed.
4. Fill soil should be typical clean topsoil. It should not have large stones, and should not be of high (greater than 8 percent) organic matter content. Mushroom soil and other high organic soils will create a soil layer discontinuity that will inhibit the movement of water into lower soil levels.
5. The replacement fill soil should not be more than 2 inches deep when light packed into place. Deeper layers will inhibit the movement of oxygen into the existing soil below, stifling new root growth and possibly causing decline of existing roots.
6. The replacement fill soil should be compacted beyond that caused by an average person walking over the surface, for the reasons cited above.

It should be noted that removal of the existing surface will probably not be of much benefit to the Fels Oak. It is adapting to the disturbance created when the playground surface was installed. The existing surface is not impervious, allowing air and water to

[1] US Consumer Products Safety Commission Public Playground Safety Handbook, 2008

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Fels Oak on the Green; Assessment of health and safety
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infiltrate the soil. However, if the surface is left in its current extent, it will have to be regularly maintained along with the rest of the area.

During my inspection I collected samples of the surface soil around the oak tree outside the playground area. The sample was submitted to A&L Agricultural Laboratories in Richmond, Virginia for nutrient testing. The results are attached separately.

The soil pH (acidity) is 5.2, generally lower than preferred by oak trees, but within acceptable limits. The addition of dolomitic lime will help raise the pH, as well as supply some magnesium and the necessary calcium. Dolomitic lime should be applied in two treatments, at the rate of 30 pounds per one thousand square feet,[2] with at least six months between applications. One treatment can be applied this year, and the second next spring.

Nitrogen, potassium, and phosphorus are typical ingredients of fertilizers. The selected product should contain an organic or slow-release source of nitrogen, and the ratio should be approximately 5-10-10, or roughly half as much nitrogen as the other two components. The amount of fertilizer to be applied will depend on the actual content of the product and the amounts of each element. The recommendations shown on the attached soil report should be followed for amounts of phosphorus and potassium. It is also important to check the fertilizer for the inclusion of any of the micro nutrients listed in the report. If the fertilizer product contains these other elements, they do not need to be applied separately.

Boron is an element that needs special note. It is required for strong metabolism in plants and trees, but is needed in very small amounts. Too much can be toxic to trees. If this element is included in the regular fertilizer product, there is no need to add more. If it is not included, it can be supplied by mixing 4 pounds of Borax[3] in 5 to 10 gallons of water and applying that mixture over 1,000 square feet, or 40 pounds over the area within the spread of the branches. It is not recommended that this be added to a liquid injection mixture of fertilizers. It should be sprayed over the surface of the ground to avoid pockets of high concentrations.

[2] A square 30 feet by 30 feet is 900 square feet. The area under the spread of branches of the oak is approximately 10,000 square feet. The area of the playground surface should be subtracted and not treated.

[3] Using the laundry type borax additive

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Fels Oak on the Green; Assessment of health and safety

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The tree does have a few dead branches in the crown, although none are large. Some extend over the playground area. Pruning should be considered for safety reasons. Any pruning operations should not be conducted to thin the crown: Internal branches and sucker sprouts should be left in the larger interior limbs, as these contribute to the strength and good structure of the limbs. Excessive thinning of the crown can lead to poor taper, excessive end weight, and can increase the risk of limb failure, especially during high winds.

There are several support cables installed in the tree, some placed last autumn by Rickerman Tree Service. These supports are intended to limit stresses placed on critical areas of the tree, particularly the main trunk crotches of this oak. Several steel bolts have also been placed in the area of the main crotch, to further stabilize this area. The tree grew with two codominant stems, creating a crotch with a narrow angle and eventually developing a condition called included bark. This represents a weak point in the tree's structure. The cabling and bracing techniques reduce the risk of failure of this configuration. Although there is no guarantee that the tree will not fail, the addition of these support devices has reduced the risk to tolerable levels.

During my visit, we discussed the possibility of installing lightning protection in this tree. A lightning protection system is intended to protect the tree from strikes by drawing an electrical charge away from the tree and grounding it some distance away. It is composed of braided copper cables that are extended to the top and long lateral limbs of the tree, and carried down the trunk and then under ground to a point beyond the dripline of the tree. This system does not protect people sheltering beneath the tree and does protect them from a strike. It is only to reduce serious damage to the tree itself.

The two main issues with this type of system are the initial cost of installation, mostly due to the cost of the cables, and the risk that scrap metal hunters will abscond with some of the cables. If installed cables are cut or broken, the system no longer provides any protection from strikes. It can be easily repaired, but is still susceptible to repeated theft. Placing the cables inside steel conduits on the lower part of the trunk may lower the threat of theft.

In summary, the Fels Oak is in good condition for a tree of 100 years. It has received some care over its life, and promises many more years of enjoyment to the residents of Arden.

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Fels Oak on the Green; Assessment of health and safety

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The main issue at hand is the playground surface. Portions can be removed, although this is not a necessity for the health of the tree, in my opinion. The specifications provided for removal and replacement of the surface should carefully followed. Also, some soil treatments are recommended for this year to assure the tree has the nutrients it needs for strong and healthy growth.

If you have questions about this report or my findings, please contact me.

Sincerely,

Russell E. Carlson, RCA #354, BCMA #PD-0008B
Tree Tech Consulting

Enclosure; Soil analysis

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# A&L Eastern Laboratories

www.aleastern.com

Submitted By: RUSS CARLSON

**SOIL ANALYSIS**

Client:
TREE TECH CONSULTING
RUSS CARLSON
114 GRAND CANYON COURT
BEAR DE 19701

Grower:
ARDEN, FELLS OAK

Report No: 14-132-0716
Cust No: 15216
Date Printed: 05/13/2014
Date Received: 05/12/2014
PO:
Page: 1 of 1

Lab Number: 12535 Field Id: Sample Id: 140505

| Test | Method | Results |
|---|---|---|
| Soil pH | 1:1 | 5.2 |
| Buffer pH | BPH | 6.72 |
| Phosphorus (P) | M3 | 10 ppm |
| Potassium (K) | M3 | 56 ppm |
| Calcium (Ca) | M3 | 579 ppm |
| Magnesium (Mg) | M3 | 94 ppm |
| Sulfur (S) | M3 | 13 ppm |
| Boron (B) | M3 | 0.4 ppm |
| Copper (Cu) | M3 | 2.7 ppm |
| Iron (Fe) | M3 | 133 ppm |
| Manganese (Mn) | M3 | 56 ppm |
| Zinc (Zn) | M3 | 8.3 ppm |
| Sodium (Na) | M3 | 35 ppm |
| Soluble Salts | BPH | 0.33 mmhos/cm |
| Organic Matter | LOI | 4.9 % ENR 139 |
| Nitrate Nitrogen | | |

SOIL TEST RATINGS: Very Low | Low | Medium | Optimum | Very High

Calculated Cation Exchange Capacity: 6.0 meq/100g

Calculated Cation Saturation

| | |
|---|---|
| %K | 2.4 |
| %Ca | 48.3 |
| %Mg | 13.1 |
| %H | 34.3 |
| Hmeq | 2.1 |
| %Ma | 2.5 |

K : Mg Ratio: 6.16

Ca : Mg Ratio: 3.69

Fizz Test

## SOIL FERTILITY GUIDELINES

Crop : Oak Trees Yield Goal : 0 Rec Units: LB/1000 SF

| lbs LIME tons | N | $P_2O_5$ | $K_2O$ | Mg | S | B | Cu | Mn | Zn | Fe |
|---|---|---|---|---|---|---|---|---|---|---|
| 60 | 3.5 | 4.0 | 5.5 | 0 | 0.37 | 0.50 | 0 | 0 | 0 | 0 |

Crop : Rec Units:

Comments:

**Oak Trees**

Limestone application is targeted to bring soil pH to 6.2.

- Apply dolomitic lime to raise pH and improve the magnesium level
- Broadcast boron using Borax and mix into the soil to raise boron level. Note boron should not be applied in the band near the plant.
- All recommended fertilizers are on actual elemental basis. To convert to product basis, divide the recommended quantity in the first page by the percentage of the active ingredient then multiply by 100.
- For best result, if there are no existing plants, broadcast all lime then till and mix 6 inches into the soil. Limit the lime application to 50 pounds per 1000 sq. ft. for existing plants, apply every 4-6 months until the recommended amount is fulfilled.
- Phosphate is more efficient if applied near the plant, apply all phosphate beside the row. Broadcast N and/or K2O then mix into the soil. If there is no fertilizer meets the ratio, you can use single element fertilizer such as Urea, Tripesuper Phosphate and Muriate of Potash to achieve the requirements. Consult the enclosed instruction sheet on lime and fertilizer application.
- Use Ammonium Sulfate as N source to supply sulfur.
- Apply the amount of lime recommended in first page to raise pH
- For a more in depth explanation of the soil test and recommendations, go to our website www.aleastern.com and select the "Lawn and Garden" tab at the top of home page. Under the "How to Understand a Soil Test Report" header you will find the link to the article "Soil Test Report & Fertilizer Recommendation Explained".

M3 - Mehlich 3 BPH - Lime Index LOI - Loss On Ignition 1:1 - Water pH